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REMARKS

In the Non-Final Office Action dated September 22, 2004, claims 1-12 and 14-20 are pending. Claims 1, 10, and 17 are independent claims from which all other claims depend therefrom. Claims 5 and 10-11 have been amended. Claim 21 is newly added.

Claims 1-3, 5-7, and 9 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Kopischke (USPN 6,359,553) in view of Bates et al. (USPN 6,337,638) further in view of Brambilla et al. (USPN 6,199,903) and further in view of Samukawa et al. (USPN 6,593,873).

With regards to claim 1, the Current Office Action states that Kopischke, Bates, and Brambilla fail to disclose the limitation of determining the depth of an object as claimed. The Applicant agrees. The Applicant submits that Kopischke, Bates, and Brambilla also fail to teach or suggest the generation of a collision severity signal and the determination of motion properties of an object in response to the determined depth of an object.

The Office Action states that Samukawa teaches detecting depth of an object. The Applicant submits that although Samukawa may disclose detecting the depth of a vehicle, Samukawa does not teach or suggest the generation of a collision severity signal and the determination of motion properties of an object in response to the detected depth. The Applicant also submits that the mere detection of object depth does not infer that the object depth is utilized in the same manner or to determine, generate, or perform, the same characteristics, parameters, or system tasks.

In Figure 3, col. 10, lines 30-39, as referred to by the Examiner, Samukawa discloses indicating the probability that a target model is an automotive vehicle. Samukawa determines whether the target model is an automotive vehicle using relative speed, depth, and width of the target model. In so doing, the system of

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Samukawa removes noise components or objects not to be tracked, as stated in col. 10, lines 62-67 and col. 11, lines 1-2.

Thus, Samukawa utilizes the object depth to determine whether an object is an automotive vehicle. This is unlike the claimed invention, which utilizes object depth to determine collision severity and to indicate the potential for a collision. Samukawa determines whether an object is an automotive vehicle such that it can determine whether the object is a preceding vehicle and whether to adjust host vehicle speed in response to speed of the preceding vehicle. The claimed invention determines object depth such that object characteristics can be determined, objects can be classified, and collision severity can be determined. Although not recited in claim 1, collision severity can be determined in response to object classification and object motion properties. Samukawa does not classify objects, but rather simply determines whether an object is an automotive vehicle. Samukawa also does not determine the potential for a collision in response to the depth of an object. In addition, Samukawa does not determine collision severity. Thus, Kopischke, Bates, Brambilla, and Samukawa fail to teach or suggest each and every limitation of claim 1.

Referring to MPEP 2143.01, the mere fact that references can be combined does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. In re Mills, 916 F.2d 680, 16 USPQ2d 1430. None of the above-stated references provide the desirability for such combination nor does the combination disclose the claimed invention without some modification thereof. The combination of determining whether an object is an automotive vehicle, as disclosed by Samukawa, with determining a potential collision, as the Office Action states is disclosed by Kopischke, Bates, and Brambilla, does not teach or suggest the generation of a collision severity signal, the determination of motion properties of an object, and the indication of a potential collision in response to a determined object depth. Thus, it would not

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have been obvious to combine and modify the teachings of Samukawa with that of Kopischke, Bates, and Brambilla to arrive at the present invention.

Referring to MPEP 706.02(j) and 2143, to establish a *prima facie* case of obviousness the prior art references must teach or suggest all the claim limitations. Since, Kopischke, Bates, Brambilla, and Samukawa fail to teach or suggest each and every element of claim 1, claim 1 is novel, nonobvious, and is in a condition for allowance. Also, since claims 2-3, 5-7, and 9 depend from claim 1, they are also novel, nonobvious, and are in a condition for allowance for at least the same reasons.

Claims 10-12 and 14-16 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Kopischke in view of Bates further in view of Brambilla and further in view of Breed et al. (USPN 6,370,475).

Claim 10 recites a method of determining motion properties of an object from within an automotive vehicle. The method includes, as herein amended, the limitations of detecting the object via a camera and generating a first object detection signal. The object is also detected via a wave-ranging device and a second object detection signal is generated. A visual parameter of the object is determined in response to the first object detection signal and the velocity of the object is determined in response to the second object detection signal. Motion properties of the object are determined in response to the velocity and the visual parameter. In determining the motion properties the object is classified in response to the object parameter signal and the mass of the object is estimated in response to the classification.

The accuracy of various wave-ranging devices in determining object height and width is low due to poor clarity, thus practical use of wave-ranging devices in automotive vehicle applications is limited to determining distance, velocity, and coarse width of an object. To overcome this limitation the claimed

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invention utilizes a camera for determining an object visual parameter and utilizes a wave-ranging device for determining an object velocity. Kopischke, Bates, Brambilla, and Breed fail to teach or suggest the stated limitations in combination. Thus, Kopischke, Bates, Brambilla, and Breed also fail to teach or suggest each and every limitation of claim 10. Therefore, claim 10 is also novel, nonobvious, and is in a condition for allowance. Since claims 11-12 and 14-16 depend from claim 10, they are also novel, nonobvious, and are in a condition for allowance for at least the same reasons.

Claims 4, 8, and 17-20 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Kopischke in view of Bates further in view of Brambilla further in view of Samukawa, and further view of Miller et al. (USPN 6,480,144).

With regards to claim 4 and 8, the Applicant submits that since claims 4 and 8 depend from claim 1, claims 4 and 8 are novel, nonobvious, and are in a condition for allowance for at least the same reasons as put forth above with respect to claim 1.

With regards to claims 4, 8, and 17-20, the Office Action states that Kopischke, Bates, Brambilla, and Samukawa fail to disclose the limitations of a collision countermeasure being connected to a controller and a controller activating the collision countermeasure in response to a collision severity signal. The Applicant agrees. The Office Action further states that Kopischke, Bates, Brambilla, and Samukawa fail to disclose the use of a camera as an object detection sensor. The Applicant also agrees. The Office Action however relies on Miller for such teaching.

Referring to MPEP 706.02(L), in order to be disqualified under 35 U.S.C. 103(c), the subject matter that would otherwise be prior art to the claimed invention and the claimed invention must be commonly owned at the time the claimed invention was made. Also, 37 U.S.C. 1.104(c)(4) states that subject matter

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which is developed by another person which qualifies as prior art only under 35 U.S.C. 102(e), (f), or (g) may be used as prior art under 35 U.S.C. 103 against the claimed invention unless the entire rights to the subject matter and the claimed invention were commonly owned by the same person or organization or subject to an obligation of assignment to the same person or organization at the time the claimed invention was made.

The Applicant, respectfully, refers the Examiner to the assignments recorded in the Patent and Trademark Office, which convey the entire rights of the present application and that of Miller to a common organization. The common organization is Ford Global Technologies, Inc. The Applicant submits that the entire rights to the subject matter of Miller and to the presently claimed invention were commonly owned by Ford Global Technologies, Inc. at the time the claimed invention was made. Therefore, Miller should no longer be considered as an available prior art reference against the present application.

With regards to claim 17 and as stated above Kopischke, Bates, Brambilla, and Samukawa fail to teach or suggest the generation of a collision severity signal, the determination of motion properties of an object, and the indication of a potential collision in response to a determined object depth.

Thus since Miller is no longer a valid prior art reference and since Kopischke, Bates, Brambilla, and Samukawa fail to teach or suggest each and every limitation of claims 4, 8, and 17-20, they are also novel, nonobvious, and are in a condition for allowance.

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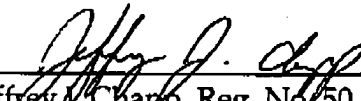
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In light of the amendments and remarks, the Applicant submits that all rejections are now overcome. The Applicant has added no new matter to the application by these amendments. The application is now in condition for allowance and expeditious notice thereof is earnestly solicited. Should the Examiner have any questions or comments, he is respectfully requested to call the undersigned attorney.

Respectfully submitted,

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